This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-5 (cancelled)

Claim 6 (currently amended): A cell line produced according to ~~the~~ a method ~~of Claim 1~~ comprising preparing a culture of at least one neural precursor cell in a serum-free medium, and culturing said cell in the presence of mitogen prior to introducing a conditionally inducible c-myc construct into said cell.

Claims 7-22 (cancelled)

Claim 23 (currently amended): A cell line of mammalian neural precursor cells capable of maintaining a multipotential capacity to differentiate into neurons, astrocytes and oligodendrocytes,

wherein the mammalian neural precursor cells contain a conditionally inducible c-myc construct ~~and~~

~~wherein the c-myc construct is comprised of a c-myc cDNA fused with at least one element selected from the group consisting of DNA for a ligand binding domain for an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor~~.

Claim 24 (previously presented): The cell line of claim 23, wherein the mammalian neural precursor cells are derived from a human.

Claim 25 (currently amended): The cell line of claim 23, wherein the mammalian neural precursor cells are derived from ~~an in vitro~~ a culture of pluripotent embryonic stem cells.

Claim 26 (cancelled)

Claim 27 (cancelled)

Claim 28 (withdrawn): The cell line of claim 23, wherein the cells maintain a bipotential capacity to differentiate into astrocytes and oligodendrocytes.

Claim 29 (withdrawn): The cell line of claim 23, wherein the cells maintain a unipotential capacity to differentiate into neurons.

Claim 30 (withdrawn): The cell line of claim 23, wherein the cells maintain a unipotential capacity to differentiate into astrocytes.

Claim 31 (currently amended): ~~An in vitro stable~~ A cell line of mammalian neural precursor cells, produced by:

(a) preparing a culture ~~of~~ compirsing at least one neural precursor ~~cells~~cell in a serum-free medium;

(b) culturing the neural precursor ~~cells~~ cell in the presence of a first mitogen prior to introducing a c-myc construct into the cell, wherein said first mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα and combinations thereof;

~~(c) introducing a c-myc construct into the cells,~~, and

wherein the c-myc construct ~~is comprised of~~includes a c-myc cDNA fused with at least one element ~~selected from the group consisting of~~ comprising DNA for a ligand binding domain ~~for~~ of a nuclear receptor selected from the group consisting of an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor; and

~~(d)~~(c) further culturing the ~~cells~~ cell in a medium containing the first mitogen and a second mitogen,

wherein said second mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα, serum and combinations thereof, ~~with the proviso that that the second mitogen is other than the first mitogen,~~ and

wherein said medium containing the first mitogen and the second mitogen further comprises a myc-activating ~~chemical~~agent selected from the group consisting of β-estradiol, RU38486, dexamethasone, thyroid hormones, retinoids, and ecdysone.

Claim 32 (previously presented): The cell line of claim 31, wherein the mammalian neural precursor cells are derived from a human.

Claim 33 (currently amended): The cell line of claim 31, wherein the mammalian neural precursor cells are derived from ~~an in vitro~~a culture of pluripotent embryonic stem cells.

Claim 34 (previously presented): The cell line of claim 31, wherein the cells maintain a multipotential capacity to differentiate into neurons, astrocytes and oligodendrocytes.

Claim 35 (previously presented): The cell line of claim 31, wherein the cells maintain a bipotential capacity to differentiate into neurons and astrocytes.

Claim 36 (withdrawn): The cell line of claim 31, wherein the cells maintain a bipotential capacity to differentiate into astrocytes and oligodendrocytes.

Claim 37 (withdrawn): The cell line of claim 31, wherein the cells maintain a unipotential capacity to differentiate into neurons.

Claim 38 (withdrawn): The cell line of claim 31, wherein the cells maintain a unipotential capacity to differentiate into astrocytes.

Claim 39 (new): The cell line of Claim 31, wherein the culture includes a monolayer culture.

Claim 40 (new): The cell line of claim 31, wherein the second mitogen is different from the first mitogen.

Claim 41 (new): The cell line of claim 31, wherein the neural precursor cell is derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 42 (new): The cell line of Claim 6, wherein the culture includes a monolayer culture.

Claim 43 (new): The cell line of Claim 23, wherein the conditionally inducible c-myc construct includes a c-myc cDNA fused with at least one element comprising DNA for a ligand binding domain of a nuclear receptor selected from the group consisting of an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor.

Claim 44 (new): The culture of claim 23, wherein the neural precursor cell is derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 45 (new): A method for producing a culture of mammalian neural precursor cells, comprising:

a) preparing a culture comprising at least one neural precursor cell in a serum-free medium including a first mitogen selected from the group consisting of aFGF, bFGF, EGF, TGFα and combinations thereof;

b) introducing a c-myc construct into the cell of the culture in serum-free medium including the first mitogen,

wherein the c-myc construct is comprised of a c-myc cDNA fused with at least one element comprising DNA for a ligand binding domain of a nuclear receptor selected from the group consisting of an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor; and

c) culturing the cell including the c-myc construct in a medium containing the first mitogen and a second mitogen,

wherein said second mitogen is selected from the group consisting of aFGF, bFGF, EGF, TGFα, serum and combinations thereof, and

wherein said medium containing the first mitogen and the second mitogen further comprises a myc-activating agent selected from the group consisting of β-estradiol, RU38486, dexamethasone, thyroid hormones, retinoids, and ecdysone.

Claim 46 (new): The method of Claim 45, wherein the neural precursor cell is derived from a human.

Claim 47 (new): The method of Claim 46, wherein the neural precursor cell is derived from an adult human.

Claim 48 (new): The method of claim 45, wherein the neural precursor cell is derived from an culture of pluripotent embryonic stem cells.

Claim 49 (new): The method of claim 45, wherein the neural precursor cell is derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 50 (new): The method of Claim 45, wherein the culture includes a monolayer culture.

Claim 51 (new): The method of claim 45, wherein the second mitogen is different from the first mitogen.

Claim 52 (new): The method of Claim 45, further comprising introducing a selectable marker into the cell of the culture.

Claim 53 (new): The method of Claim 52, further comprising culturing the cell in the presence of at least one unmodified feeder cell.

Claim 54 (new): The method of Claim 53, wherein the feeder cell is selected from the group consisting of an unmodified primary stem cell, an immature glial cell, a mature astrocyte, a fibroblast, a neuron and a mitotically-inhibited non-neural cell.

Claim 55 (new): A method of obtaining a culture of stem cells of the central nervous system of a mammal expanded through at least thirty cell doublings comprising:

a) preparing a culture comprising at least one stem cell of the central nervous system of a mammal in a serum-free medium including a first mitogen selected from the group consisting of aFGF, bFGF, EGF, TGFα and combinations thereof;

b) modifying said stem cell to express a chimeric c-myc protein comprising a c-myc protein fused with at least one nuclear receptor protein selected from the group consisting of an estrogen receptor, an androgen receptor, a progesterone receptor, a glucocorticoid receptor, a thyroid hormone receptor, a retinoid receptor, and an ecdysone receptor; and

c) culturing the modified cells in a medium comprising the first mitogen and a myc-activating agent.

Claim 56 (new): The method of claim 55, wherein the stem cell is derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 57 (new): The method of Claim 55, wherein the culture includes a monolayer culture.

Claim 58 (new): The method of Claim 55, wherein the myc-activating agent is selected from the group consisting of β-estradiol, RU38486, dexamethasone, thyroid hormones, retinoids, and ecdysone.

Claim 59 (new): The method of Claim 55, which includes withdrawing the first mitogen to initiate differentiation of the expanded culture of stem cells.

Claim 60 (new): A stem cell line of the central nervous system of a mammal comprising:

at least one cell, wherein said cell:

(a) is transfected with a proto-oncogene;

(b) maintains the multipotential capacity to differentiate into a neuron, astrocyte or oligodendrocyte through at least thirty cell doublings of said cell; and

(c) differentiates into a neuron, astrocyte or oligodendrocyte upon withdrawal of a mitogen.

Claim 61 (new): The stem cell line of claim 60, wherein the cell is derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 62 (new): The stem cell line of Claim 60, wherein the proto-oncogene includes c-myc.

Claim 63 (new): The stem cell line of Claim 60, wherein the cell differentiates into a neuron, said neuron having a gamma amino butyric acid (GABA)-positive phenotype.

Claim 64 (new): The stem cell line of Claim 60, wherein the cell differentiates into a neuron, said neuron having a calretinin-positive phenotype.

Claim 65 (new): The stem cell line of Claim 60, wherein the cell differentiates into a neuron, said neuron having a tyrosine hydroxylase-positive dopaminergic phenotype.

Claim 66 (new): A clonal cell line comprising neural precursor cells in a serum-free medium, wherein the neural precursor cells are cultured in the presence of mitogen prior to introducing a conditionally inducible c-myc construct and a selectable marker into at least one cell of the culture.

Claim 67 (new): A clonal cell line of mammalian neural precursor cells capable of maintaining a multipotential capacity to differentiate into neurons, astrocytes and oligodendrocytes,

wherein the mammalian neural precursor cells contain a conditionally inducible c-myc construct and a selectable marker.

Claim 68 (new): A clonal stem cell line of the central nervous system of a mammal comprising:

at least one cell, wherein said cell:

(a) is transfected with a proto-oncogene and a selectable marker;

(b) maintains the multipotential capacity to differentiate into a neuron, astrocyte or oligodendrocyte through at least thirty cell doublings of said cell; and

(c) differentiates into a neuron, astrocyte or oligodendrocyte upon withdrawal of a mitogen.

Claim 69 (new): The clonal stem cell line of claim 68, wherein the stem cells are derived from central nervous system tissue selected from the group consisting of hippocampus, cerebral cortex, striatum, septum, diencephalon, mesencephalon, hindbrain, and spinal cord.

Claim 70 (new): The clonal stem cell line of Claim 68, wherein the proto-oncogene includes c-myc.

Claim 71 (new): The clonal stem cell line of Claim 68, wherein the cell differentiates into a neuron, said neuron having a gamma amino butyric acid (GABA)-positive phenotype.

Claim 72 (new): The clonal stem cell line of Claim 68, wherein the cell differentiates into a neuron, said neuron having a calretinin-positive phenotype.

Claim 73 (new): The clonal stem cell line of Claim 68, wherein the cell differentiates into a neuron, said neuron having a tyrosine hydroxylase-positive dopaminergic phenotype.